

DEFENSE SATELLITE COMMUNICATIONS

Intelligence, Security, and Communications

Deterring aggression, and maintaining military readiness.

**BACKGROUND AND DESCRIPTION:** The system supports the collection,

processing, storage, and dissemination of intelligence information and video

other designated users. The system also serves those non-operational purposes

of two command entities, the Venus and the within the DSCS program, process and transmit satellite mission data. The Joint Chiefs of Staff have designated US and its organizations as users of DSCS data: Continental Air Defense Command (CONAD), Aerospace Defense Command (ADC), Strategic Air Command (SAC), National Military Command Center (NMCC), Atlantic Command (ACOM), Pacific Command (PACOM), European Command (EUCOM).

Planned system improvements are intended to prolong the availability of communications, make the satellite more survivable increase the probability data will be available.

RELATED ACTIVITIES:

The Defense Satellite Communication System, Phase II (DSCS-II, 33110F) will provide an alternative communications route. Advanced Airborne Command Post (AARNCP, 64723F) is a potential user of this program's data. DSCS is a key element of the Worldwide Military Command and Control System (WMCCS) and is related to the other elements of the WMCCS.



Program Element # 1.1.1.1System Level Development

Programmed by: ORNLIA is responsible for system level development, system integration, and technical management of the responsibility of the user equipment segment. Also, the Air Force Acquisition Division, Wright-Patterson AFB, provides oversight and direction of the responsibility of the Air Force System Command (AFSC), AF Systems, AF, and the overall formal program management responsibility for the AFSP, ARW, and AFSC. AFSC prime contractor is the Air Force Satellite Integration Agency, AFSC, AF, is the prime contractor for the user equipment development. The AF Display Segment and the User Acquisition and Management Segment, Aerospace Electronics, Inc., Webster, CA, are responsible for the system's. The user equipment system development contractor, Santa Monica, CA, is responsible for software configuration management and integration. The Martin Company, Denver, CO, is responsible for the ETRAN IIIC booster instruments, test house, and launch support. The Atomic Energy Commission (Sandia Corporation) is responsible for:

The Aerospace Corporation, Inglewood, CA, provided General Systems Engineering/Technical Direction support to the ICP System Directorate.

PROGRAM ACCOMPLISHMENTS AND FUTURE PROGRAMS:

1. FY 1973 and Prior Accomplishments: The program has provided for procurement of 14 satellites and 11 AFSP IIIC boosters, construction of two data processing facilities (Orbital and COMSAT), user display equipment, software, communications equipment, and a training facility. The training facility is also used for software level spares and mission data analysis.

Future launches will be conducted to replenish

Project Activity #4 - Satellite Management and Control System

Element A: Initial Satellite Management

Intended currently as part of the preliminary program, the initial satellite system will be installed at the Overhead Broadcast Station which will be located in the different areas of Defense Satellite Command. The primary function of this satellite, the first phase, is to mate communications with:

- a. FY 74 Planning: responsibilities will support completion of the FY 74 contract to prepare the satellite for possible orbital (i.e., any orbit) deployment. Funding is provided to modify the satellite to enable it to receive the required command signals to increase the satellite's output power, thereby enabling IBI data to be received; further, technically enhance the design of the satellite's survivability; and to provide engineering support to the contractor to continue effort of R&D Augmentation; to provide alternate circuit card test equipment; to procure satellite tracking and training equipment; to provide support for software development to complete ground station shielding work and make necessary shielding repairs; to begin fabrication of an initial small processing station soft panel to procure an IBM 360/50 computer used in software development and modification.

- b. FY 75 Planned Program: the planned FY 75 program includes continuation of the initial development of the initial operational modification to the satellite to analyze and evaluate the collected satellite data,

and to provide continued support of R&D augmentation. Anticipated funding is provided to begin development of software to be used with small processing stations, and to continue fabrication of a small processing station started during FY 74.

- c. Program to Completion: R&D funding will support continuation of the development of the satellite system to support of DOD requirements. Primary emphasis will be directed toward elimination or reduction of deficiencies discovered during operational employment.

Further Activity #4 - Utilizing Information and Related Activities

Procurement # 100-11 - Defense Department - Air Force

a. Requirements:

	Date	Estimated Cumulative Total Cost to Reach Next Year (in Millions)
a.	[ ]	190.0
b.	[ ]	377.3
c.	[ ]	382.1
d.	[ ]	392.0
e.	[ ]	397.2
f.	[ ]	405.8
g.	[ ]	445.0
h.	[ ]	456.2
i.	[ ]	471.8

Allocations (\$ in Millions)

	FY 73 and Prior	FY 1974	FY 1975	FY 1976-79	Total** Estimated Cost
Reproc: Funds	116.3	72.1	33.7	31.8	532.0
Quantities					
Satellites/master	4/1	0	0	0	4/1
Procurement:					
Funds (3000, 3000)*	616.0	23.1	91.7	427.8	1,203.6
Quantities					
Satellites/master	8/11	0/0	1/0	5/6	14/17

\* exclude, option funded in Other Procurement, Air Force.

\*\*Through FY 70

**TRANSCRIBED PAGES FOLLOW**

FY 1975 RDT&E DESCRIPTIVE SUMMARY

Program Element # [??143[?]F

Title Defense Support Program

Catagory Strategic Forces

Budget Activity #4 - Military Astronautics and Related Equipment

BACKGROUND AND DESCRIPTION:

[Excised]

[Excised]

vides [Excised]

The Defense Support Program (DSP) and related developments. The DSP satel-

The system pro-

[Excised] to our national command authorities and other designated users. The system also serves these more specific purposes:

[Excised]

Two ground stations, one overseas and one within the CONUS receive, process and transmit satellite mission data. The Joint Chiefs of Staff have designated the following organizations as users of DSP data: Continental Air Defense Command (CONAD), Aerospace Defense Command (ADC), Strategic Air Command (SAC), National Military Command Center (NMCC), Atlantic Command (LANTCOM), Pacific Command (PACOM), European Command (EURCOM),  
[Excised]

[Excised]

Planned system improvements are intended to improve the useful life of each satellite, make the satellite more survivable [Excised] increase the probability [Excised] data will be available [Excised]

RELATED ACTIVITIES:

System, Phase II (DSCS-II, 33110F) will provide an alternative communications route. Advanced Airborne Command Post (AABNCP, 64723F) is a potential user of this program's data. DSP is a key element of the Worldwide Military Command and Control System (WWMCCS) and is related to the other elements of the WWMCCS.

[Excised]

Project Activity #4 - Military Astronautics and Related Equipment

Program Element # [?]431F

Title Defense Support Program

WORK PERFORMED BY: CINCONAD has been designated to maintain operational control of the DSP system. [???]ation and technical management are the responsibility of the USAF Aerospace Defense Command (ADC). The Air Force Logistics Command (AFLC) provides logistic support. The Space and Missile System Organization (SAMSO) of the Air Force Systems Command (AFSC), Los Angeles, CA, has the overall development and procurement management and responsibility for the DSP. TRW, Redondo Beach, CA, is the prime contractor for the space[Excised] sensor. Western Development Laboratories/Philco Ford, Palo Alto, CA, is the prime contractor for the User Display Segment and the Data Acquisition and Communications Segment. Aerojet Electrosystems and IBM, Westlake, CA, are responsible for the system's software development. System Development Corporation, Santa Monica, CA, is responsible for software configuration management and integration. The Martin Company, Denver, CO, is responsible for the TITAN IIIC booster and Eastern Test Range (ETR) launch support. The Atomic Energy Commission (Sandia Corporation) is responsible for [Excised]

The Aerospace Corporation, Englewood, CA, provides General Systems Engineering/Technical Direction support to the DSP System Program Office.

PROGRAM ACCOMPLISHMENTS AND FUTURE PROGRAMS:

1. FY 1973 AND PRIOR ACCOMPLISHMENTS: The program has provided for procurement of 12 satellites and TITAN IIIC boosters, construction of two data processing facilities (overseas and CONUS), user display equipment, software, communications equipment, and a training facility. The training facility is also used for software development and mission data analysis.

[Excised]

Future launches will be conducted to replenish

Budget Activity #4 - Military Astronautics and Related Equipment

Program Element # [?]43[?]F TITLE Defense Support Program

[Excised] satellites currently deployed when operationally required. An [?]SC-46 communications terminal has been installed at the Overseas Ground Station (OGS) which will enable DSP data to be transmitted to the CONUS via Defense Satellite Communications System Phase II (DSCS-II) communications satellite, thus providing an alternate communications mode [Excised]

2. FY 1974 Program: Expenditures will support completion of modifications necessary [Excised] to prepare the satellite for possible universal (i.e., any orbit) deployment. Funding is provided to modify the satellite to enable it [Excised] to increase the satellite's output power, thereby enabling DSP data to be received by smaller, less costly antennae; to increase the satellite's on-orbit reliability; [Excised] Further, funding is provided to analyze and evaluate collected satellite data; [Excised] to continue support of DSP Augmentation; to provide automatic circuit card test equipment; to procure satellite tracking set (STS) training equipment; to provide support for software development; to complete ground station shielding tests and make necessary shielding repairs; to begin fabrication of an initial small processing station (SPS); and to procure an IBM 360/75 computer used in software development and modification.

3. FY 1975 Planned Program: The planned FY 75 program includes expenditures for initial development of an operational modification [Excised] [Excised] to continue to analyze and evaluate collected satellite data, [Excised]

[Excised]

and to provide continued support of DSP Augmentation. Additional funding is provided to begin development of software to begin new processing stations, and to continue fabrication of a small processing station started during FY 74.

4. Program to Completion: RDT&E funding will support continued revolutionary development of the satellite system in support of DOD requirements. Primary emphasis will be directed toward eliminating or minimizing deficiencies discovered during operational employment.

Budget Activity #4 - Military Astronautics and Related Equipment

Program Element # [?]43[?]F Title Defense Support Program

5. Milestones: